12. (once amended) A system in accordance with Claim 10 wherein to reprovide the AC sine wave to said at least one heater element, said controller configured to reprovide at a zero crossing at least two half cycles subsequent the zero crossing at which the AC sine wave was stopped.

17. (once amended) A dryer in accordance with Claim 16 wherein to reprovide the AC sine wave to said at least one heater element, said controller configured to reprovide at a zero crossing immediately subsequent the zero crossing at which the AC sine wave was stopped.

Remarks

Submitted herewith is a Submission of Marked Up Paragraphs and Claims. Specifically, the specification and claims have been amended to correct typographical errors.

Also submitted herewith is a Request for Approval of Drawing Changes. Specifically, Figure 1 has been amended to delete labels "42" and "52". In anticipation of the approval of this request, submitted herewith are formal drawings. Applicant respectfully requests approval of the enclosed formal drawings.

Applicants respectfully submit that no new matter has been added.

Respectfully Submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Riddle et al.	:	
	:	Art Unit: Not yet assigned.
Serial No.: 10/608,178	:	
	:	Examiner: Not yet assigned.
Filed: June 27, 2003	:	
	:	
For: CLOTHES DRYER APPARATUS AND METHOD	:	

SUBMISSION OF MARKED UP PARAGRAPHS AND CLAIMS

Mail Stop Non-Fee Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Submitted herewith are marked up paragraphs and claims in accordance with 37 C.F.R. Section 1.121(b)(1)(iii) and 1.211(c)(1)(ii).

IN THE SPECIFICATION

Please amend paragraph 0007 on page 2 as follows:

In another aspect, a dryer for tumble drying articles includes a drum including a cavity configured to hold articles to be dried, a motor drivingly coupled to the drum to rotate the drum, a [heat]heater element in flow communication with the cavity, a blower positioned to deliver heated air to the cavity, and a controller operationally coupled to the heater. The controller is configured to provide an AC sine wave to at least one heater element of an electric clothes dryer, stop the providing at a zero crossing of the AC sine wave, monitor the AC sine wave for a subsequent zero crossing, and reprovide the AC sine wave to the at least one heater element at the subsequent zero crossing.

Please amend paragraph 0017 on page 3 as follows:

A plurality of tumbling ribs (not shown) are provided within drum 26 to lift clothing articles therein and then allow them to tumble back to a bottom (not shown) of drum 26 as drum 26 rotates. Drum 26 includes a rear wall 34 rotatably supported within main housing

12 by a suitable fixed bearing. Rear wall 34 includes a plurality of holes 36 that receive hot air that has been heated by an electrical heater 40 in communication with an air supply duct 38. The heated air is drawn from drum 26 by a blower fan 48. The air passes through a screen filter 46 which traps lint particles. As the air passes through the screen filter 46, it enters a trap duct seal and is passed out of [the] clothes dryer 10 through an exhaust duct 50. After the clothing articles have been dried, they are removed from the drum 26 via opening 32.

Please amend paragraph 00022 on page 4 as follows:

Figure 4 illustrates a waveform of an AC sine wave controlled by heater control system 90 to limit the current through heater 40 of electric clothes dryer 10 to maintain an air temperature below a predetermined maximum allowable temperature. Controller 92 operation is based on an input signal from at least one of temperature sensors 64 and 68, humidity sensor 96, and clothing moisture sensor 98. The signals from these sensors 64, 68, [80,]96 and 98 are used by the controller 92 to determine the timing and duration for stopping and reproviding the AC sine wave to the heater 40.

Please amend paragraph 00023, which begins on page 4 and ends on page 5, as follows:

In use, controller 92 monitors temperature sensors 64 and 68, and varies the AC sine wave to heater 40 to maintain a predetermined temperature slightly below a maximum allowable temperature for the clothing being dried. Controller [90]92 monitors humidity sensor 96 and varies the AC sine wave to heater 40 to maintain a predetermined temperature to humidity relationship, wherein the outlet duct 50 air humidity is indicative of clothing dryness. Controller [90]92 monitors clothing moisture sensor 98 and varies the AC sine wave to heater 40 to maintain a predetermined temperature to moisture relationship, wherein the sensed moisture is indicative of clothing dryness. Controller [90]92 is configured to gradually reduce the voltage to heater 40 rather than turning heater 40 completely off. Controller 92 provides an AC sine wave to at least one heater 40 of clothes dryer 10, stops the providing at a zero crossing 100 of the AC sine wave, monitors the AC sine wave for a subsequent zero crossing 100, and reprovides the AC sine wave to the at least one heater 40 at the subsequent zero crossing 100.

Please amend paragraph 0024 on page 5 as follows:

During a normal cycle of an AC voltage sine wave, the voltage crosses the "x" axis, or

zero, at 0 degrees and again at 180 degrees. During normal conditions, there are two zero crossings 100 in each cycle. Controller 92 stops providing and reprovides the AC sine wave at zero crossing 100. More specifically, after the initial providing of the AC sine wave to heater 40, controller 92 upon a determination to stop providing the AC sine wave to heater 40 based on the input signals from [the] sensors 64, 68, 96 and 98, stops the AC sine wave at zero crossing 100 subsequent the moment of determination. Upon a determination to reprovide the AC sine wave to heater 40 based on the input signals from sensors 64, 68, 96 and 98, controller 92 reprovides the AC sine wave at zero crossing 100 immediately subsequent the zero crossing 100 at which the AC sine wave was stopped. The reproviding can also occur in at least two half cycles subsequent the zero crossing 100 at which the AC sine wave was stopped.

Please amend paragraph 0026 on page 5 as follows:

Figure 5 illustrates a gas heater control system 200, which is included in gas embodiments of dryer 10. Gas heater control system 200 includes a controller 202 operationally coupled to a linear gas valve 204 and a burner 210. Controller 202 is also coupled to at least one of temperature sensors 64 and 68, a humidity sensor 96, and a clothing moisture sensor 98. Linear gas valve 204 is adjustable to vary the gas flow [theretrough]therethrough and subsequently vary the amount of gas ignited at burner 210. More specifically, controller 202 is in communication with valve 204 and adjusts valve 204 to vary [an]a heat output of burner 210.

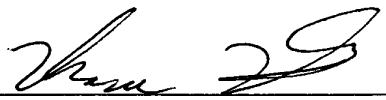
IN THE CLAIMS

11. (once amended) A system in accordance with Claim 10 wherein to reprovide the AC sine wave to said at least one heater element, said controller configured to reprovide at a zero crossing immediately subsequent the zero crossing at which the AC sine wave was stopped.

12. (once amended) A system in accordance with Claim 10 [A dryer in accordance with Claim 16] wherein to reprovide the AC sine wave to said at least one heater element, said controller configured to reprovide at a zero crossing at least two half cycles subsequent the zero crossing at which the AC sine wave was stopped.

17. (once amended) A dryer in accordance with Claim 16 wherein to reprovide the AC sine wave to said at least one heater element, said controller configured to reprovide at a zero crossing immediately subsequent the zero crossing at which the AC sine wave was stopped.

Respectfully Submitted,



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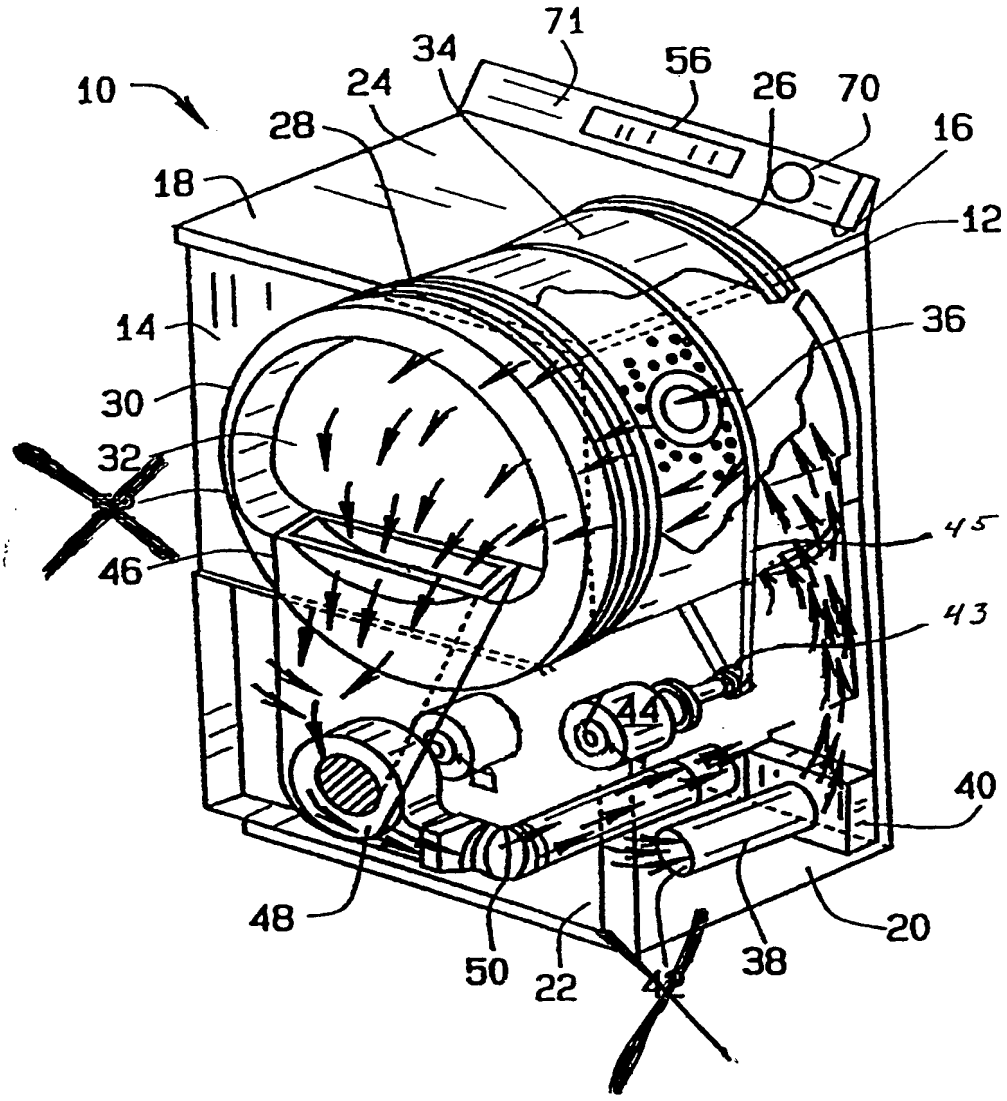

FIG. 1